

REMARKS

Claims 1-18 were presented in the application as filed, and claims 8-18 were canceled and new claims 19-28 were added in a Preliminary Amendment filed with the application. Claims 1, 2, 4-7, 19, 20 and 27 were canceled, and new claims 29 and 30 were added in a response filed on November 19, 2004. Claims 31-35 were added in a response filed on April 11, 2005. Claims 36, 37, and 38 were presented in a response after final, filed on October 27, 2005, but claims 36, 37, and 38 were not entered. Claims 36, 37, and 38 are not to be entered in the current response; they are replaced by claims 39, 40, and 41, which have been added. Claims 31 and 32 have been cancelled by amendment above. Claims 3, 21-26, 28-30, 33-35, and 39-41 are now pending and under consideration.

Claims 3, 28, and 33 have been amended to clarify that the fire barrier and the insulating layers are both fabric and are distinct layers. Support for the amendment is found throughout the application, and particularly in paragraph [0024], which discusses two layers, both of which are composed of fibers (i.e. fabric). Entry of these amendments, reconsideration of the application, and allowance of all claims pending herein are respectfully requested in view of the remarks below.

CLAIM REJECTIONS UNDER 35 U.S.C. § 103

The Office action states that claims 3, 21-22, 25 and 28-34 are rejected under 35 U.S.C. §103(a) as being anticipated by US Patent No. 4,504,991, to Klancnik, in view of US Patent No. 4,762,750, to Girgis, *et al.* This is an unusual rejection. Anticipation requires that a single reference teach every element of the claimed invention. Since both the text that follows this statement and the header for that section of the Office Action suggest that the examiner intended an obviousness rejection under 103 and not an anticipation rejection under 102, applicants have amended and will argue on that basis. Claims 3, 28 and 33 are independent.

As to claim 3, Klancnik is alleged to disclose an open flame mattress having the features of claim 3 except for a fire barrier layer comprising a fabric/textile and a mattress resisting an open flame under conditions of California TB 603. Girgis, *et al* is alleged to disclose the elements missing from Klancnik.

Claim 3 of the present application recites an open flame resistant mattress including a fire barrier textile at least partially enclosing the core of the mattress. The claim has been amended to clarify that the fire barrier textile is made up of two distinct layers and both are fabric

layers. Because the amended claim is allowable on the basis of its structural limitations alone, the performance limitation has been removed to a dependent claim. The mattress when tested in accordance with California TB 603 has a maximum heat release of less than 200 kW and a total energy release of less than 25 MJ in the first ten minutes of the test has been removed from present Claim 3 and presented in a new claim (dependent Claim 37 of the present application).

Klancnik discloses a mattress which includes a composite made of one or two fire-retardant layers with a layer of high tensile strength material sandwiched in between. When exposed to a fire, the fire retardant material chars and the high tensile material holds the mattress together to prevent the mattress from bursting open thereby exposing any flammable ingredients therein to a fire. The only fire retardant material disclosed by Klancnik is a Neoprene foam; the high tensile strength material is a fiberglass fabric, scrim or cloth.

Klancnik does not disclose a fire barrier textile having two layers, both fabric. This is a significant structural difference in the context of the proposed use as a part of a mattress. If the fire barrier textile does not allow the free passage of air under non-flame conditions, the object that it covers (in this case, a mattress) will retain body heat and will lead to a sensation of clamminess and sweatiness to the touch. Further, the aforementioned conditions tend to cause "ballooning" in normal use.

Ballooning (in a mattress or an article) is a critical problem which, if not prevented, can lead to tragic consequences. If a mattress or article is in a ballooned condition and exposed to normal use such as sitting, jumping, sleeping, etc, a breach or rupture of the fire barrier will occur. The breach will not affect use of the mattress or article but will render any fire resistant characteristics of aforementioned mattress or article's fire barrier useless. The breached fire barrier will no longer be able to isolate the mattress or article fuel, *i.e.* the inner flammable materials, from a heat source when exposed to the heat source. The rupture or breach will allow ignition of the mattress or article fuel and subsequent destruction of the mattress or article, and more tragically, any persons in the vicinity.

Additionally, restricted airflow results in the collection of unwanted moisture within the mattress, leading to conditions we don't even want to discuss.

Thus the structural element missing from Klancnik to meet the requirements of applicants' amended claims is a second fabric layer that is either a fire barrier fabric layer or a thermally insulating fabric layer made of a char-forming flame-retardant fiber.

Girgis does not provide the missing teaching. Girgis, *et al.* discloses flexible, chemically treated bundles of fibers and methods of production thereof. The bundles of fibers include elastomeric polymer blends or curable elastomeric polymer blends as a portion of their composition. The bundles of fibers are then further processed into strands and yarns for use in combination with polymeric textiles and polymeric fabrics. Applications for the polymeric textiles and polymeric fabrics include industrial and commercial, architectural and building industries, and sundry geotextile applications. Examples include air and tension structures like air supported covers over athletic stadiums and airport facilities to smaller applications such as awnings and tarpaulins. The fibers typically have a high tensile strength and are used to provide mechanical strength and primarily to prevent breaking of a polymeric textile or polymeric fabric when used in combination. Specifically the fibers must be able to withstand exposure to various climates and weather conditions. There are not two distinct fabric layers, as required by applicants' claims. An example is provided in Figure 1 of Girgis, which is described in column 18. It comprises three layers, but only one is fabric, the other two are PVC sheets or films. The combination of Girgis with Klancnik still does not provide a structure having two distinct fabric layers, at least one of which is made of a char-forming, flame-retardant fiber.

If the Klancnik and Girgis references were combined as suggested in the Office Action, the combination would not result in a fire barrier textile that includes a fire barrier fabric layer and a thermally insulating fabric layer. Klancnik requires two elements: a fire-retardant layer (his neoprene foam) that chars to maintain an insulating layer and a structural layer (his fiberglass layer). If one were to replace one of these layers with the material described by Girgis, one would replace the structural layer, since this is what Girgis teaches his material is suited for. There is no suggestion in either reference to replace Klancnik's foam with anything. If one added Girgis to Klancnik, which is nowhere suggested, one would obtain a composite material having both neoprene foam and PVC film - hardly a suitable material for the purpose of the present invention.

Girgis *et al.*, discloses flexible, chemically treated bundles of fibers, having elastomeric polymer blends or curable elastomeric polymer blends dispersed therein, not designed to be used for mattresses. Instead, the Girgis *et al.* reference discloses a material usable in industrial

and commercial, architectural and building industries, and sundry geotextile applications. There is no disclosure of it being used for a mattress or it being suitable comfort-wise for such a mattress. Thus, one of ordinary skill in the mattress art would not seek to combine the unsatisfactory (relative to comfort) mattress of Klancnik with a presumably less comfortable structural material used in Girgis *et al.* Accordingly, there would be no reason to combine these references. A combination of Klancnik and Girgis, *et al.* is respectfully submitted to not disclose the features recited in claim 3 of the present application, and therefore these references cannot make claim 3 of the present application obvious. . Reconsideration of the rejection of claim 3 is requested. Claims 36 and 37, which depend from claim 3 and add further limitations to an allowable claim, are believed allowable for the same reasons.

Claim 28 of the present application recites an open flame resistant article including filling materials and a flame-retardant composite fire barrier textile at least partially enclosing the filling material. The flame-retardant fire barrier textile includes a fire barrier fabric layer and a thermally insulating fabric layer, which independently include at least one char-forming flame-retardant fiber. Further, the fire barrier fabric layer is distinct from the thermally insulating fabric layer. The performance standard has been removed and presented in a dependent claim (Claim 38 of the present application).

Claim 28 is believed allowable for the same reasons as set forth above for claim 3. Klancnik discloses a mattress which includes a composite made of one or two fire-retardant foam layers with a layer of high tensile strength material sandwiched in between. Klancnik does not disclose a fire barrier layer comprising a fabric/textile. Girgis, *et al.* discloses flexible, chemically treated bundles of fibers and methods of production thereof. Combination of the Klancnik and Girgis references would not result in an open flame resistant article comprising a fire barrier textile which includes a fire barrier fabric layer and a thermally insulating fabric layer.

Accordingly, all of the elements of the invention as recited in claim 28 are not disclosed, and a *prima facie* case of obviousness has not been established. Claims 29, 30, and 38, which depend from claim 28 and add further limitations to an allowable claim, are believed allowable for the same reasons.

Claim 33 of the present application recites a flame-retardant composite including a thermally insulating fabric layer and a fire barrier fabric layer. The thermally insulating fabric layer and a fire barrier fabric layer fire barrier textile independently include at least one char-

forming flame-retardant fiber. Further, the fire barrier fabric layer is distinct from the thermally insulating fabric layer.

The combination of Klancnik and Girgis, *et al* is respectfully submitted to not disclose the features recited in claim 33 of the present application, and therefore these references cannot make claim 33 of the present application obvious. The Applicants rely on the arguments presented in support of claim 3 above. This claim is believed to be allowable along with the dependent claims 21-26, 34 and 35, which are believed allowable for the same reasons and for their own additional features.

There being no other outstanding issues, it is believed that the application is in condition for allowance, and such action is respectfully requested.

If a telephone conference would be of assistance in advancing the prosecution of the subject application, Applicants' undersigned agent invites the Examiner to telephone him at the number provided.

Respectfully submitted,



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